



INVESTOR IN PEOPLE

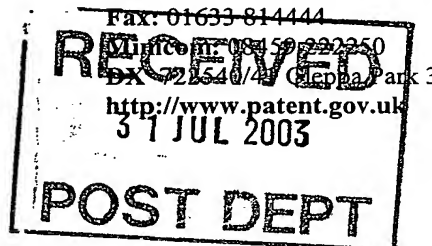
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Patents Directorate**

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Your Reference: GBP87404
Application No: GB 0303471.7



28 July 2003

Dear Sirs

**Patents Act 1977:
Combined Search and Examination Report under Sections 17 and 18(3)**

Latest date for reply: 14 February 2005

I enclose two copies of my search and examination report and two copies of the citations.

By the above date you should either file amendments to meet the objections in the report or make observations on them. If you do not, the application may be refused.

Publication

I estimate that, provided you have met all the formal requirements, preparations for publication of your application will be completed soon after **13 July 2004**. At this time you will receive a letter confirming the exact date when the preparations for publication will be completed. This letter will also tell you the publication number and date of publication of your application.

Withdrawal/amendment

If you wish to withdraw your application before it is published you must do so before the preparations for publication are complete. **WARNING** - after preparations for publication are complete it will NOT be possible to withdraw your application from publication.

[†]Use of E-mail: Please note that e-mail should be used for correspondence only.



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If you wish to file amended claims for inclusion with the published application you must do so before the preparations for publication are completed. If you write to the Office less than 3 weeks before 13 July 2004 please mark your letter prominently:

“URGENT - PUBLICATION IMMINENT”.

Yours faithfully


Riz Mohammad
Examiner

Important information about combined search and examination

I also ask that you take note of the following points. These might have a bearing on the future stages of your application because the examination report has been sent to you before your application has been published.

- (a) You may file voluntary amendments before making a full response to my examination report. We will publish with your application any new or amended claims you file voluntarily or as a full response, provided that they are received before preparations for publication are completed. It would help us when you file amendments before publication if you could **prominently indicate** in a covering letter whether or not the amendments are intended as a full response to the examination report.
- (b) If you file a full response to the examination report before your application is published I will consider it as soon as possible. However, if this would disrupt the publication of your application, I would have to delay taking any action until the application had been published. This delay could be up to 3 months, depending upon when we receive your response.
- (c) There is another situation when there might be a delay between you filing a full response and the Patent Office responding to it. This would arise if you met all my objections but your application had not or had only recently been published. I could not report the outcome of my re-examination until I was satisfied that the search was complete for documents published before the priority date of your invention and that anybody interested in the application has had three months following publication of the application to make observations on the patentability of your invention.
- (d) Provided that the requirements of the Act have been met, I can send your application to grant as early as three months after publication. Before doing so I will bring the original search up to date and raise with you any further objection that might result from this top-up search. However, there is a possibility that at that time I may not have access to all the patent applications published after the priority date of your invention and of possible relevance to your application. If this is the case I would have to complete the search after grant and if necessary raise any new found novelty objection then.



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Your ref: GBP87404
Application No: GB 0303471.7
Applicant: Toshiba Research Europe Ltd.

Examiner: Riz Mohammad
Tel: 01633 814707
Date of report: 28 July 2003

Latest date for reply: 14 February 2005

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Patents Act 1977 Combined Search and Examination Report under Sections 17 & 18(3)

Inventive step

1. The invention as defined in claims 1 to 6 and 8 to 13 is obvious in view of what has already been disclosed in the following documents:

- WO9713386 A [DANNELIND et al]; Entire Document.
- JP8084106 A [NAKAMURA]; Figures and English Abstract.
- JP11168422 A [SUWA] Figures and English Abstract.
- GB2307375 A [DANIELS & SEWELL]; Entire Document.

2. Your invention as defined in claims 1 and 8 is a wireless communications network for communicating with a mobile terminal comprising of an access point; a plurality of repeaters capable of relaying signals between the access point and the mobile terminal and means of selecting one of many received signals based on qualitative analysis.

2. *DANNELIND et al* discloses a method of providing wireless communication to a mobile terminal in an indoor environment. The network comprises of a plurality of transceivers which relay signals between the mobile terminal and a communication hub which acts as an access point. The arrangement disclosed in *DANNELIND et al* deals with providing sub-cells and the repeaters are individually focussed to cover a small region within the cell. However, the technique involved in selecting a sub-cell (an inturn selecting a link) is similar to that employed by your invention. The selection is based on RSSI measurements which thereby indicate which repeater has the best reception from the mobile unit.

3. *NAKAMURA* discloses microwave repeaters for an (indoor) wireless LAN that provide a link for relaying signals between terminal that may be mobile and the base station.

4. *SUWA* discloses a wireless LAN where there is plurality of repeaters capable of transmitting to a terminal the same signal and a method wherein one of these repeater antennas are selected based on signal quality received via the respective repeaters.

5. It is well known in the art that to select or combine signals received from an array of antenna arranged to provide coverage within an enclosed region. Such arrangements are well known in television studios and television coverage of outdoor events such as in a sporting arena. Both audio-visual signals meant for transmission as well as talk-back signals are transmitted and received via a plurality of repeater antennas providing a link between the recording terminal and the television control room. A similar system is disclosed in *DANIELS & SEWELL*. *DANIELS & SEWELL* further requires a line of sight path between each camera and the signal receiving hub, similar to that defined in claim 6.



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[Examination Report contd.]

6. The features disclosed above have been well known in the art since before the priority date of your application. Your invention as defined in the claims 1 and 8 is merely an obvious modification of what is already described in *DANNELIND et al* using well known features as disclosed in *NAKAMURA*, *SUWA* and *DANIELS & SEWELL*.

7. Claims 2 to 6 and 9 to 13 disclose features obvious to a person skilled in the art. It is well known to select signals based on comparisons with predetermined thresholds of signal or link quality. It is also well known to use signal or link quality corresponding to direct line-of sight link as minimum acceptable, when such a line of sight arrangement is provided for, as in *DANIELS & SEWELL*. Use of directional antenna's have been disclosed in *NAKAMURA*.

8. Claim 14 requires the measurement of signal quality to be performed at the repeater and this measurement to be forwarded to the access point. Claim 7 requires the access point and repeaters to be located so as to form a pyramid in 3D space. Care should be taken so as not to introduce plurality of invention as a consequence of amendments to overcome the above objections.



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Application No: GB 0303471.7
Claims searched: 1 to 14

Examiner: Riz Mohammad
Date of search: 28 July 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance	
Y	1 and 8 at least	WO9713386 A	[DANNELIND et al]; Entire Document.
Y	1 and 8 at least	JP8084106 A	[NAKAMURA]; Figures and English Abstract (accession number: 1996-219539 [22])
Y	1 and 8 at least	JP11168422 A	[SUWA] Figures and English Abstract (accession number: 1999-414926 [35])
Y	1 and 8 at least	GB2307375 A	[DANIELS & SEWELL]; Entire Document.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^v:

H4L

Worldwide search of patent documents classified in the following areas of the IPC⁷:

H04B, H04Q

The following online and other databases have been used in the preparation of this search report :

Online: WPI, EPODOC, PAJ, IEEEEXPLORE.